

**WHAT IS CLAIMED IS:**

- 1 1. A multi-channel radio operating with multiple security levels,  
2 comprising:  
3 more than one input/output, each input/output corresponding to a  
4 security level;  
5 a first common bus coupled to the more than one input/output;  
6 a first set of more than one processor coupled to the common bus,  
7 each of the first set of processors corresponding to a security level;  
8 a second set of more than one processors coupled to the first set of  
9 processors; and  
10 more than one transceiver, each transceiver being coupled to at least  
11 one of the processors of the first set of processors.
- 1 2. The multi-channel radio operating with multiple security levels of claim  
2 1, further comprising:  
3 a second common bus coupled to the first set of processors and the  
4 second set of processors.
- 1 3. The multi-channel radio operating with multiple security levels of claim  
2 2, wherein one of the first processors of the first set of processors encodes  
3 information received from one of the input/outputs.
- 1 4. The multi-channel radio operating with multiple security levels of claim  
2 3, wherein the second common bus directs the encoded information so that it  
3 is received by the intended processor of the second set of processors and not  
4 received or understood by other of the processors of the second set of  
5 processors.
- 1 5. The multi-channel radio operating with multiple security levels of claim  
2 4, wherein the first common bus is an Ethernet packet switching device.

1 6. The multi-channel radio operating with multiple security levels of claim  
2 4, wherein the second common bus is a PCI bus.

1 7. A method of transmitting data using a multi-channel radio system  
2 configured for use with different security levels, comprising:  
3 receiving an information packet;  
4 routing the information packet to a processor of a first set of  
5 processors, each of the first set of processors corresponding to a security  
6 level, the routing carried out over a first common bus;  
7 encoding the information packet;  
8 routing the information packet by a second common bus to one of a  
9 second set of processors; and  
10 transmitting the information packet from one of the second set of  
11 processors over the air.

1 8. The method of claim 7, wherein the first set of processors are red  
2 processing devices.

1 9. The method of claim 7, wherein the first common bus comprises an  
2 Ethernet packet switching device.

1 10. The method of claim 7, wherein the second common bus comprises a  
2 PCI bus.

1 11. The method of claim 7, wherein the second set of processors are black  
2 processing devices.

1 12. A method of receiving data using a multi-channel radio system  
2 configured for use with different security levels, comprising:  
3 receiving an information packet from over the air;  
4 routing the information packet to a processor of a first set of  
5 processors;

6 routing the information packet over a first common bus to one of a  
7 second set of processors based on the security level of the information  
8 packet;  
9 decoding the information packet; and  
10 routing the information packet by a second common bus to one of a set  
11 of outputs, each output corresponding to a security level.

1 13. The method of claim 12, wherein the first set of processors are black  
2 processing devices.

1 14. The method of claim 12, wherein the second common bus comprises  
2 an Ethernet packet switching device.

1 15. The method of claim 12, wherein the first common bus comprises a  
2 PCI bus.

1 16. The method of claim 12, wherein the second set of processors are red  
2 processing devices.

1 17. A multi-channel radio receiving information of different security levels,  
2 comprising:  
3 a first set of processors;  
4 a second set of processors, each of the second set of processors  
5 corresponding to a security level; and  
6 a common bus interface coupled between the first set of processors  
7 and the second set of processors, the interface configured to isolate  
8 processors of the second set of processors from one another based on the  
9 information security level.

1 18. The multi-channel radio of claim 17, wherein the second set of  
2 processors comprise red processing devices.

1 19. The multi-channel radio of claim 17, wherein the common bus interface  
2 comprises a PCI bus.

1 20. The multi-channel radio of Claim 17, wherein the first set of processors  
2 comprise black processing devices.